

(No Model.)

F. VOHRINGER.

PROCESS OF MANUFACTURING SHEET METAL ARTICLES.

No. 475,642.

Patented May 24, 1892.

Fig. 1

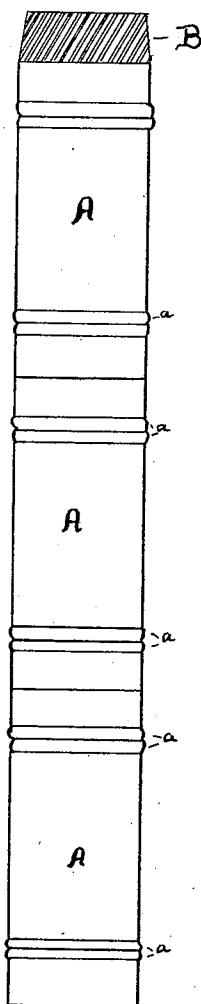


Fig. 2



Fig. 3.



Witnesses

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FREDERICK VOHRINGER, OF LOUISVILLE, KENTUCKY.

PROCESS OF MANUFACTURING SHEET-METAL ARTICLES.

SPECIFICATION forming part of Letters Patent No. 475,642, dated May 24, 1892.

Application filed February 10, 1892. Serial No. 420,974. (No specimens.)

To all whom it may concern:

Be it known that I, FREDERICK VOHRINGER, of Louisville, in the county of Jefferson, in the State of Kentucky, have invented new and useful Improvements in Processes of Manufacturing Sheet-Metal Articles, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

10 This invention relates to improvements in the process of manufacturing sheet-metal ware which is rust-proof; and it consists in the steps, all as hereinafter more fully described, and specifically set out in the claim.

15 In the annexed drawings similar letters of reference denote corresponding parts.

Figure 1 is an elevation of a portion of gutter made of sheet metal, and Fig. 2 is an elevation of a section composed of three lengths of conductor-pipe, while Fig. 3 is a cross-section of a piece of sheet-metal gutter such as is made and finished by my improved process.

In the manufacture of articles of this class to be used to convey water from buildings it is quite essential that the interior of all parts thereof be painted or covered in some manner with a rust-proof material, which will prevent oxidation of the material of which the conductor is composed. To that end various attempts have been made to furnish a conduit pipe and gutter which will stand exposure to moisture and the atmosphere; but to the present time none of these processes is to my knowledge successful owing to the inability to reach all parts of the interior of the article manufactured. Where the sheet metal is painted or otherwise coated before forming into piping and guttering, it will be found hard to work properly, and in addition to the difficulties met with in its manipulation in its painted condition it will be found that there is generally much damage done to the coating at the point of union between the several sections of the pipe or guttering, and consequently it is exposed to the influences which it is desired to guard against.

In the manufacture of my improved guttering and conductor-pipe I do not attempt to paint the sheets, but first form them into sections of the desired shape, and in the case of the conductor-pipe I run it through crimping and corrugating machines, which put proper

strengthening-ribs on the pipe at convenient distances from the end thereof and also corrugate the same at one end, so as to assist in joining the same to the next section of pipe. In the case of the guttering I also join the sections together, and from this point the process of finishing is identical. Having the several sections properly joined into the proper length, I dip the finished lengths into a bath of any suitable rust-proof material—such as paint or any suitable equivalent—and revolve the lengths, so as to insure adhesion of the paint to all the interior parts of the sheet-metal article, and after so revolving the same it is removed from the bath and placed on convenient racks in such position that the liquid coating will drain into the bath standing the several lengths of pipe or guttering in a vertical position, so as to insure proper adhesion of such coating to all parts of the interior, and especially at the place of union between the several lengths of pipe or guttering.

By standing the joined sections of pipe and guttering in such position that the interior lap or joint is at the top end it will be seen that the material with which the same is coated will in flowing down enter any open seams or joints and fill them with the paint, thus positively preventing any ingress of rain-water into such openings and forming a positive guard against rust on the interior of the shell.

I am aware that it is not new to paint some portion of the interior of a conductor-pipe by running a swab or brush into the interior thereof which is covered with paint; but such painting does not accomplish the desired end, as by thus painting the interior of pipe or guttering it will be found that the portion of the same at the place where the vertical seams and horizontal joints come will be left nearly or quite unpainted, and it is at such points that the greatest care should be used to guard the articles against oxidation and consequent destruction.

Another feature of advantage in my process is that the small circular portion of the lengths of the guttering will be as thoroughly painted on the interior as on the exterior, something which I believe has never been accomplished until the invention of this process by me owing to the small diameter of such

portion preventing the entrance of any paint-conveying vehicle.

I am aware that it is not new to paint articles in single lengths—such as fence-pickets—
5 by dipping them into a suitable bath and standing them on end to dry in racks provided for the purpose and that it is not new to paint single lengths of pipe on the interior, and I do not seek to claim, broadly, the process of
10 painting by dipping; but

What I do claim as new, and desire to secure by Letters Patent, is—

The herein-described process of painting sheet-metal articles of the described class, consisting of the following steps in the order
15 named: first, joining the short unpainted sections into proper lengths by a longitudinal

lap-joint, sliding one section into the next for a sufficient distance to insure a union, next dipping said joined sections into a bath of 20 suitable paint and revolving the same in said bath, next removing said lengths from said bath and standing said painted lengths in a vertical position on suitable draining-racks, with the inner lap of the joint at the upper 25 end to insure filling said joint with paint, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand this 22d day of January, 1892.

FREDERICK VOHRINGER.

Witnesses:

FREDERICK H. GIBBS,
H. H. LONG.